

Table of Excessive, Greatest and Least Monthly Rainfalls—Continued.

STATION.	SPECIAL HEAVY.			Largest Monthly. Amount, Inches.	SMALLEST MONTHLY. STATION.	Amt.
	Date.	Amt.	Duration			
Thornville.....				6.43	Woodland.....	0.00
Mississippi.					Poway.....	0.01
Scranton.....	20	3.01		10.00	San Diego.....	0.03
Starkville.....	9	2.00	1hr.40m.	9.53	Mammoth Tank.....	0.20
Do.....	17	1.17	1hr.45m.		Colorado.	
Do.....	25	2.51	4 hrs.		Fort Lyon.....	0.40
Fayette.....				9.35	Connecticut.	
Missouri.					New Haven.....	0.26
Protem.....	2	1.00	18 m.	6.42	Southington.....	0.40
New Jersey.					Dakota.	
Atlantic City.....	16	4.79		14.87	Smithville.....	0.00
Do.....	27	5.16			Fort Meade.....	0.01
Little Egg Harbor.....	27 and 28	6.20		12.85	Fort Pembina.....	0.16
Cape May.....	1	3.09		10.28	Fort Buford.....	0.16
Do.....	27	8.10			Fort Sully.....	0.20
Atco.....				9.56	Bismarck.....	0.30
Moorestown.....	27 and 28	6.29		9.44	Fort Totten.....	0.31
Vineland.....	27 and 28	4.30		9.29	Fort Bennett.....	0.32
Barnegat.....	16	2.25		8.21	Fort Lincoln.....	0.42
Do.....	27	3.73			Georgia.	
Readington.....	7	3.30	2hrs.30m.		Bainbridge.....	0.31
Phillipsburgh.....	7	1.50	1 hr.		Idaho.	
New Mexico.				6.00	Lewiston.....	0.06
Silver City.....					Eagle Rock.....	0.07
North Carolina.					Fort Lapwai.....	0.15
Lumberton.....	14	2.52		10.09	Iowa.	
Smithville.....	11	1.38	30 m.	8.33	Dana.....	0.41
Do.....	30	2.94	9hrs.46m.		Kansas.	
Wilmington.....				8.08	Holton.....	0.06
Lenoir.....				7.70	Salina.....	0.03
Goldsboro.....				7.66	Russell.....	0.05
Kittyhawk.....				7.48	Clay Centre.....	0.06
Hatteras.....	15	2.37		6.95	Lawrence.....	0.09
Fort Macon.....	15	2.87		6.78	Fort Riley.....	0.37
Portsmouth.....				6.40	Maine.	
Ohio.					Gardiner.....	0.34
Sandusky.....	4	2.37		8.02	Massachusetts.	
North Lewisburg.....				7.55	Amherst.....	0.25
Tremble.....				7.32	Minnesota.	
College Hill.....				7.00	Saint Vincent.....	0.42
Bethel.....				6.58	Mississippi.	
Cincinnati.....	27	1.85	35 min.		Okolona.....	0.31
Pennsylvania.					Missouri.	
Blooming Grove.....	31	3.80		8.10	Greenfield.....	0.10
Williamsport.....	26 and 27	3.78		6.70	Shelbina.....	0.50
Philadelphia.....	27	3.49		6.40	Montana.	
Franklin.....				6.25	Terry's Landing.....	0.00
South Carolina.					Fort Keogh.....	0.00
Charleston.....	27	3.50		9.32	Helena.....	0.15
Cheraw.....	14	3.90		8.86	Fort Benton.....	0.27
Jacksonborough.....				8.55	Fort Missoula.....	0.31
Columbia.....				7.76	Poplar River.....	0.36
Hardeeville.....				7.51	Nebraska.	
Florence.....				6.93	Fort Niobrara.....	0.30
Tennessee.					Genoa.....	0.50
Erin.....				7.40	Nevada.	
Chattanooga.....	27	1.44	1hr.10m.	6.63	Battle Mountain.....	0.00
Knoxville.....				6.06	Beowawe.....	0.00
Texas.					Boca.....	0.00
Concho.....	23 and 24	6.86		14.04	Carlin.....	0.00
Sour Lake.....	2	3.00		13.66	Carson City.....	0.00
Do.....	5	4.00			Elko.....	0.00
Corsicana.....	9	3.00		11.70	Fort McDermitt.....	0.00
Do.....	24	3.02			Golconda.....	0.00
Do.....	25	4.75			Hot Springs.....	0.00
Galveston.....	5 and 6	5.36		9.85	Humboldt.....	0.00
Indianola.....	9	1.33	30 m.	9.02	Otega.....	0.00
Do.....	18	1.33	25 m.		Pallsade.....	0.00
Fort Stockton.....	23	2.45		7.10	Reno.....	0.00
Fort McKavett.....	27	2.55		6.14	Wadsworth.....	0.00
Eagle Pass.....				6.04	Winnemucca.....	0.00
Dallas.....	4	2.37			Halleck.....	0.14
Palestine.....	25	2.92			Toano.....	0.25
Uvalde.....	29	1.05	1hr.15m.		Tecoma.....	0.30
Virginia.					Wells.....	0.48
Wytheville.....				7.65	New Hampshire.	
Variety Mills.....				6.12	New Market.....	0.29
Lynchburg.....	23	1.06	40 m.		Anburn.....	0.36
West Virginia.					Lake Village.....	0.46
Helvetia.....	7 and 8	4.38		12.80	Wolfborough.....	0.47
Morgantown.....	27 and 27	3.38	27hr.35m.	7.72	Oregon.	
Wisconsin.					Umatilla.....	0.00
Madison.....	14 and 15	3.50		6.83	Eola.....	0.03
Embarrass.....				6.15	Albany.....	0.04
					South Carolina.	
					Allendale.....	0.46
					Tennessee.	
					Withe.....	0.09
					Utah.	
					Colton.....	0.00
					Corinne.....	0.10
					Promontory.....	0.11
					Washington territory.	
					Pomeroy.....	0.02
					Colfax.....	0.03
					Dayton.....	0.14
					Spokane Falls.....	0.14
					Wyoming.	
					Cheyenne.....	0.23
					Fort Washakie.....	0.25

HAIL.

Madison, Wisconsin, 15th: At 12:30 a. m., a heavy shower

of hail occurred; many windows of north and west exposure were broken; the corn and tobacco crops were stripped by the hail, and many gardens were destroyed. The storm was very severe at the town of Cottage Grove. The crops principally damaged by hail were near the towns of Burke, Blooming Grove and Cottage Grove.

Sterling, Kansas: The storm of the 15th was accompanied by heavy hail, which did considerable damage.

Dexter, Maine, 15th: Hail-stones of irregular shapes fell during storm, some of which measured one inch in length.

Rochester, 10th: A severe hail-storm occurred between 12:30 and 1:00 p. m., in the adjoining counties. The storm originated in the eastern borders of Wyoming county, taking an easterly and northeasterly course through the towns of York, Caledonia, Avon, Rush and Mendon. The hail-belt was about four miles wide. When the storm first began the hail-stones were as large as hickory nuts, but they decreased in size, and became less compact as the storm moved eastward. There was great destruction of crops; farmers suffering considerable loss by the breaking down of growing corn and oats; great damage was also done to the fruit crop.

Hail storms of less violence were reported as follows:

Des Moines, Iowa, 15th.

Mount Washington, New Hampshire, 17th.

Pensacola, Florida, 9th.

Buffalo, 10th.

Milwaukee, 9th.

Helena, Montana, 8th.

Fort Bayard, New Mexico, 11th.

Santa Fe, 12th.

Pioche, Nevada, 20th.

Pomeroy, Washington territory, 26th.

Fort Lewis, Colorado, 30th.

Russell, Kansas, 8th.

Protem, Missouri, 2d.

Wytheville, Virginia, 8th.

SNOW.

Sandusky, 10th: A snow squall occurred at 8:10 a. m., lasting four minutes; the flakes were small and melted rapidly. Temperature at that time, 48° 5. At Johnson Island, two miles north of station, the fall was much heavier.

Grand Haven, 9th: A light flurry of snow is reported to have occurred during the morning, about a mile from station.

Pike's Peak, Colorado, 2d, 3d, 8th, 15th, 22d, 28th, 29th, 30th, 31st.

Salt Lake City, 31st.

Fort Garland, Colorado, 31st: The foot hills and mountains were covered with snow during the morning.

Denver, Colorado, 30th: A heavy snow storm prevailed at Leadville during the night of the 29th and morning of the 30th.

Chicago, 11th: The propeller "Menominee" reported having encountered in mid-lake, on the night of the 8th, a thick cold cloud which burst on her decks, covering them with snow and slush to a depth of six inches. For five minutes the atmosphere was like that of winter, but as the steamer was moving rapidly she soon came into warmer temperature.

SLEET.

Pike's Peak, Colorado, 13th, 14th, 20th, 28th.

RAIN FROM CLOUDLESS SKY.

Burlington, Vermont, 7th, from 11.00 p. m. to midnight.

COTTON REGION REPORTS.

The following tables give the average rainfall, mean of maximum and mean of minimum temperatures, for the months from April to August inclusive, in each of the cotton districts as shown on chart vi. issued with the April REVIEW.

Meteorological Record for the Cotton Districts for the month of August, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	8.88	89.8	72.0
Savannah	6.21	90.6	71.0
Charleston	6.12	90.4	68.9
Atlanta	5.99	87.7	67.5
Wilmington	6.24	87.8	67.5
Memphis	4.30	87.1	67.2
Galveston	5.42	87.7	70.2
Vicksburg	4.66	89.1	68.7
Montgomery	4.01	88.6	68.7
Augusta	4.26	88.4	68.8
Little Rock	3.44	88.3	68.3
Mobile	3.96	90.2	70.0

Meteorological Record for the Cotton Districts for the month of July 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	8.30	90.4	71.3
Savannah	6.21	91.0	70.3
Charleston	7.28	90.9	68.0
Atlanta	5.46	87.9	67.6
Wilmington	5.90	90.2	67.7
Memphis	5.45	88.0	67.1
Galveston	3.74	94.0	71.3
Vicksburg	10.30	89.4	69.0
Montgomery	5.18	88.6	67.1
Augusta	4.93	90.0	69.2
Little Rock	3.08	89.2	66.0
Mobile	6.06	90.5	68.7

Meteorological Record for the Cotton Districts for the month of June, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	2.43	90.6	72.5
Savannah	4.97	89.9	70.4
Charleston	4.98	89.9	67.5
Atlanta	3.85	88.6	66.8
Wilmington	1.97	90.0	66.2
Memphis	2.89	90.4	67.0
Galveston	0.90	92.7	70.0
Vicksburg	1.44	91.2	68.5
Montgomery	3.49	91.5	69.4
Augusta	4.06	90.6	67.6
Little Rock	1.58	91.3	64.2
Mobile	2.60	94.8	68.5

Meteorological Record for the Cotton Districts for the month of May, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	5.57	84.4	61.1
Savannah	2.59	84.8	60.7
Charleston	2.53	81.9	58.1
Atlanta	2.39	78.9	56.2
Wilmington	2.62	79.0	54.6
Memphis	7.56	77.7	56.3
Galveston	5.25	83.9	59.9
Vicksburg	7.03	81.9	60.8
Montgomery	3.02	81.9	58.2
Augusta	2.11	82.2	57.8
Little Rock	11.04	78.7	53.6
Mobile	4.69	83.4	58.3

Meteorological Record for the Cotton Districts for the month of April, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	5.63	81.9	59.9
Savannah	3.73	81.1	60.2
Charleston	2.66	77.5	54.5
Atlanta	4.49	76.3	54.9
Wilmington	3.88	74.2	50.0
Memphis	5.29	74.9	54.0
Galveston	1.58	82.1	57.9
Vicksburg	7.03	78.6	56.8
Montgomery	4.92	78.5	57.2
Augusta	3.05	78.2	54.7
Little Rock	4.74	75.9	51.9
Mobile	8.80	79.1	57.3

WINDS.

The prevailing direction of the winds during the month of August at Signal Service stations are shown on chart number ii., by arrows flying with the wind. Throughout the country east of the Rocky mountains the prevailing winds were, with but few exceptions, from southeast to southwest, except in the upper lake region, upper Mississippi and lower Missouri valleys, where they were mostly northerly; in the north Pacific

coast region they were northerly, and in the middle and south Pacific coast regions they were westerly.

TOTAL MOVEMENTS OF THE AIR.

[In miles.]

The following are the largest total movements at the Signal Service stations: On the summit of Mount Washington, 17,255; Cape Mendocino, California, 12,842; Hatteras, North Carolina, 9,693; San Francisco, 9,160; Delaware Breakwater, 8,804; Barnegat, New Jersey, 8,522; Kittyhawk, North Carolina, 8,456; Sandy Hook, New Jersey, 8,383. The smallest are: Lynchburg, Virginia, 1,911; Silver City, New Mexico, 2,017; Yankton, 2,093; Augusta, Georgia, 2,234; Olympia, 2,258; Fort Missoula, Montana, 2,480; Fredericksburg, Texas, 2,594; Roseburg, Oregon, 2,596; Vicksburg, 2,596; San Antonio, Texas, 2,620; Washington, District of Columbia, 2,633; Lewiston, Idaho, 2,651; Little Rock, Arkansas, 2,719; Boise City, Idaho, 2,720; Tucson, Arizona, 2,727; Shreveport, 2,754; Dayton, 2,773; Montgomery, 2,835; Morgantown, West Virginia, 2,841; Indianapolis, 2,985.

HIGH WINDS.

The highest velocity recorded during the month (80 nw.) occurred on the summit of Mount Washington, on the 13th. At this station other high velocities occurred as follows: 63, w., 7th; 54, w., 8th; 51, sw., 9th; 55, sw., 10th; 60, nw., 11th; 57, nw., 12th; 66, nw., 14th; 70, nw., 15th; 68, nw., 17th; 66, nw., 18th; 57, nw., 19th; 65, n., 25th. Stations reporting velocities of forty miles per hour or more are as follows: Galveston, Texas, 49, nw., 4th; Olympia, Washington territory, 48, sw., 1st; Eagle Rock, Idaho, 48, s., 1st; West Las Animas, Colorado, 48, n., 28th; Fort Washakie, Wyoming, 46, sw., 17th; Fort Assinaboine, Montana, 44, sw., 16th; Indianola, Texas, 43, ne., 9th; Fort Keogh, Montana, 40, se., 17th; Umatilla, Oregon, 40, w., 15th; Salt Lake City, Utah, 40, se., 1st.

LOCAL STORMS.

Connecticut: 7th. A severe storm occurred at Stamford, Fairfield county, causing much damage. Several buildings were struck by lightning and were more or less damaged.

Colorado: West Las Animas, 28th. A heavy gale occurred at 3:35 p. m., and lasted three hours. The wind reached a velocity of forty-eight miles per hour.

Dakota: Wicklow, 14th. Several buildings were blown down during a heavy wind storm which occurred about twenty-five miles south of station.

Kansas: Sterling, 15th. A violent wind-storm accompanied by thunder and severe hail, occurred on the evening of the 15th. Many buildings were unroofed and otherwise damaged and several smoke stacks were demolished. During the storm two inches of rain fell, which greatly benefitted the corn crop. A severe thunder storm also occurred in Nemaha and Marshall counties on the morning of the same day; many buildings were damaged by lightning.

Russell, 27th. A whirlwind occurred at 10.35 p. m.; the cloud had a rapid revolving motion and moved from the southwest; it was apparently fifty feet in diameter, and about seventy feet in height. On striking the town, the phenomenon appeared to bound upwards carrying dust and debris with it until it appeared to be about two miles high, when it assumed the form of huge revolving ball. It was immediately preceded and followed by a dead calm.

Louisiana: New Orleans, 9th. During a heavy gust of wind the Crescent City cotton press was unroofed, and other damage occurred in the city.

Maine: Bangor, 15th. A destructive wind storm, accompanied by torrents of rain occurred at Bangor on the above date. Many buildings were blown down and others unroofed, while hundreds of chimneys were demolished. The spire of the Unitarian church was blown down, and several buildings were damaged by lightning. Many cellars were flooded and merchandise was considerably damaged by water. The storm was purely local and extended over a small section only. The damage to crops and property is estimated at \$50,000. At